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December 14, 2018

Doreen Friis
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
P.O. Box 1692, Unit "M"
Halifax, NS B3J 3S3

Re: M08887 - NS Power and Lunenburg Electric Utility - Power Outage Complaints

Dear Ms. Friis:

In a letter dated September 19, 2018, the Nova Scotia Utility and Review Board (UARB) directed each of Nova Scotia Power Inc. (NS Power or Company) and the Lunenburg Electric Utility (Lunenburg Utility) to respond to complaints received with respect to specific outages that occurred in the Lunenburg area.

NS Power responded by letter dated October 3, 2018 providing the dates and details of the specific outages. In its response, the Company noted as follows:

NS Power has also assigned a dedicated engineering team within the Company to identify and assess options to improve reliability in this area such as enhancements of transmission line switching capacity and installation of additional fault locating relay equipment. This is detailed and complex work that will take time to complete; however, this team has been directed to move as quickly as possible.

In its letter dated November 5, 2018, the UARB concluded that based on the responses from NS Power and the Lunenburg Utility, "NS Power's responses to the outages was timely and adequate, and its actions to reduce the risk of future outages are reasonable." The UARB noted, however, that it was interested in the recommendations for potential improvements to be provided by NS Power's dedicated engineering team and directed NS Power to provide a status report on those recommendations by December 15, 2018.

Please accept this correspondence as NS Power's status report in accordance with the UARB's direction.

Based on its review of the outages in question, NS Power's recommendations for

potential reliability improvements fall within the three key areas noted below. NS Power wishes to advise at the outset that work remains ongoing, however, a number of the recommended actions have already been implemented.

1. Transmission System Planning and Design

- (a) NS Power is undertaking a full system planning study of the transmission system feeding the Lunenburg Utility and evaluating alternative options for system supply including upgrades to existing lines, reconfiguration, and addition of new transmission lines. The results of this study and proposed recommendations are expected by the end of Q2 2019.
- (b) Remote hold off capability will be added to the breakers on line L-5546 at the 99W Bridgewater and the 75W Westhaver's Elbow substations (as shown on the transmission drawing provided as Attachment 1 to NS Power's October 3, 2018 letter). Remote hold off capability is used at other substations on the system and shortens outage restoration time when transfer switching is an available option to restore customers. The engineering has been completed, procurement of parts is underway and implementation is planned for completion in Q2 2019.

2. Substation and Line Asset Management

- (a) A detailed visual and thermal inspection was completed of the transmission lines (L-5546, L-5547) fed from the 75W Westhaver's Elbow substation. Some isolated danger trees were identified on line L-5546 and subsequently removed.
- (b) Eighteen strings of 69kV insulators at the 75W Westhaver's Elbow substation have been proactively replaced to an upgraded design.
- (c) Line sensors were installed on NS Power transmission lines L-5547 and L-5551 to provide indication of downline faults to assist NS Power power line technicians in line patrols when investigating outages.
- (d) Fault locating line sensors will be installed along the transmission line to the Town of Lunenburg to shorten the time it takes to find the cause of future line faults. This equipment will provide more precise fault location information to operators and PLTs and will shorten response time to outages. The equipment is expected to be installed by the end of Q1 2019.
- (e) NS Power intends to make a capital investment to upgrade the structures on NS Power transmission line L-5551 (CI0011243). Faults on line L-5551 will trip line L-5547 affecting all customers in the area. This work was originally planned to commence in mid-2019 but has been advanced and was started this month.

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D. Friis

3. Transmission and Distribution Vegetation Management

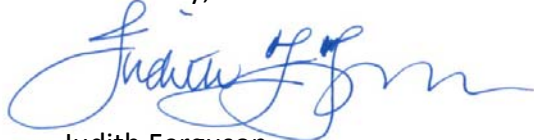
- (a) A detailed vegetation management plan to support reliability was developed by NS Power for the Lunenburg Utility's service territory and was presented to the Lunenburg Utility for its consideration. Phase 1 of 4 phases of this management plan will be executed at the Lunenburg Utility's direction commencing this month.
- (b) A \$630,000 vegetation management project was completed to widen the right-of-way for transmission line L-5547 from Westhaver's Elbow to Lunenburg. The right-of-way was widened from 20m to 30m (with a few exception areas where property owners did not provide permission for tree cutting).
- (c) Vegetation management work is underway on a portion of NS Power owned distribution circuits (78W) in areas adjacent to the Town of Lunenburg and will be completed in December.

In addition to the initiatives above, NS Power has also undertaken the following actions after meetings between representatives of NS Power and the Town:

- A capital investment plan to support reliability within the Town of Lunenburg was developed and presented to the Lunenburg Utility for consideration.
- An engineering review of the Lunenburg Utility's substation reclosers was conducted to validate operations and status indications to enable safe field operations for NS Power and contract (tree) crews working near energized equipment within the Town's service territory.

NS Power is working hard to respond to customer reliability concerns and we believe that this work is providing enhanced reliability. We are committed to continuing to work with the Town on improving reliability for customers.

Yours truly,



Judith Ferguson
Executive Vice President
EVP Regulatory, Legal, Business Planning, Corporate Affairs

- c. Karen Hutt, President & CEO
Mark Sidebottom, COO
Paul Casey, VP Transmission, Distribution

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David Landrign, VP Commercial
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Lunenburg Electric Utility

